

## AMENDMENTS

### Amendments to the Specification:

At page 10, beginning on line 3 and ending on line 27, please replace with the following:

**FIG. 3A-E.** Proliferative responses in control and vaccinated monkeys. Peripheral blood mononuclear cells (PBMC) from each of the five monkeys in the study were collected at various intervals as shown and tested for proliferative responses to various peptides and to heat-inactivated SHIV as antigens using the standard [<sup>3</sup>H] thymidine incorporation assay. The results are expressed as stimulation index (SI) values calculated as fold-increases in proliferation with the test antigen compared to medium control. Also, the values were adjusted to an unrelated control peptide used (a helper T cell epitope peptide form the E7 oncoprotein of HPV-16).

**FIG. 4A-E.** NK activity of PBMC from the control and vaccinated monkeys. Freshly isolated PBMC from the monkeys were tested at various time points after immunization for NK activity against <sup>51</sup>Cr-labelled K-562 target cells.

**FIG. 5A-E.** Flow-cytometric analysis of CD4+ and CD8+ cells from the control and vaccinated monkeys. Freshly obtained blood samples from the monkeys were processed at various time points after immunization by flow-cytometry using specific anti-CD4 and anti-CD8 antibodies conjugated to PE and FITC, respectively.

**FIG. 6A-D.** HIV envelope-specific CTL activity in control and peptide-vaccinated monkeys. PBMC from two vaccinated monkeys (J13 and L889) and two controls (L913 and L933) were restimulated *in vitro* with peptide-pulsed DC for 14 days before testing for lysis of autologous <sup>51</sup>Cr-labelled B-LCL target cells that were infected with either control or recombinant vaccinia virus-expressing HIV envelope protein (vSC8 and vPE16, respectively). PBMC were isolated from blood samples collected at different time points after vaccination, stimulated *in vitro* for two weeks with peptide-pulsed DC, and assayed by the standard chromium-release assays using autologous B-LCL targets infected with either control (vSC8) or recombinant vaccinia virus-expressing HIV envelope gp160 (vPE16). The CTL activity at an E:T ratio of 50:1 is shown.

At page 11, beginning on line 1 and ending on line 29, please replace with the following:

**FIG. 7A1-A5, B1-B5. A1-A5. Peptide-specific proliferative responses prior to DC infusions in vaccinated and control monkeys.** Equal amounts (100 µg) of each of the six conserved HIV envelope peptides were emulsified in complete Freunds adjuvant (CFA) and injected subcutaneously into three monkeys while two controls received only CFA. At 4 and 8 weeks, booster doses of peptide mixture in incomplete Freunds adjuvant (IFA) were given (the controls received only IFA). Proliferative responses specific to the six individual peptides were estimated by the standard [<sup>3</sup>H]thymidine incorporation assays. Peptide-specific responses (above the medium background and a control peptide) were observed only in the vaccinated monkeys but not in the controls. In majority of cases, by week 20 the responses decreased to background levels. This is when the peptide-pulsed DC infusions were given to the vaccinated monkeys to boost the responses, while the control monkeys received un-pulsed DC. **B1-B5. Peptide-specific proliferative responses after DC infusion in vaccinated and control monkeys.** Autologous monocyte-derived dendritic cells (DC) were prepared from PBMC and pulsed with the mixture of six synthetic peptides for 24 hours before intravenous infusion into the monkeys that were vaccinated earlier with the same peptide mixture in Freund's adjuvant. A total of three infusions were given at weeks 22, 24, and 25. The control monkeys received autologous DC without peptide pulsing. In the vaccinated monkeys, the peptides with an increase in proliferative response (above the background and a control peptide) subsequent to DC infusion were marked with an asterisk (\*).

**FIG. 8A-D. Post-challenge analysis of blood samples from control and vaccinated monkeys.**

Post-challenge analysis of blood samples showing efficient control of SHIV infection in the vaccinated monkeys compared to the control animals. Blood samples were collected from the monkeys at different time intervals after challenge with SHIV-ku2, and analyzed for total CD4+ cells by flow cytometry and shown as absolute numbers (CD4+ cells). A series of 10-fold serial dilutions of PBMC isolated from the blood samples were co-cultured with 10<sup>6</sup> C8166 indicator cells in 24-well tissue culture plates, and the highest dilution of PBMC showing a visible

cytopathic effect (CPE) was used to calculate the number of SHIV-infected cells (SHIV+ cells) per  $10^6$  PBMC.